



# FIRE LINES

Comparing wildfire risk on state  
and U.S. public lands  
September, 2017



**BY**  
GREG ZIMMERMAN & LUCY LIVESAY

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# 1

## INTRODUCTION AND KEY FINDINGS

Wildfire is an ever-present reality for many communities in the Western United States. The 2017 wildfire season has shrouded Western states in smoke as record-breaking heat fueled fires across the region. Just as hurricanes threaten the Gulf states and tornadoes the Plains states, wildfire is a natural, if sometimes dangerous, fact of life in the West.

A first-of-its-kind analysis of wildfire data compares the risk of wildfire on U.S. public lands versus state-owned lands. Data show that the percent of U.S. public lands and state-owned lands at a high risk of wildfire are approximately equal, a finding in keeping with consensus among forestry experts that Western wildfires are driven primarily by natural factors and exacerbated by a warming climate.

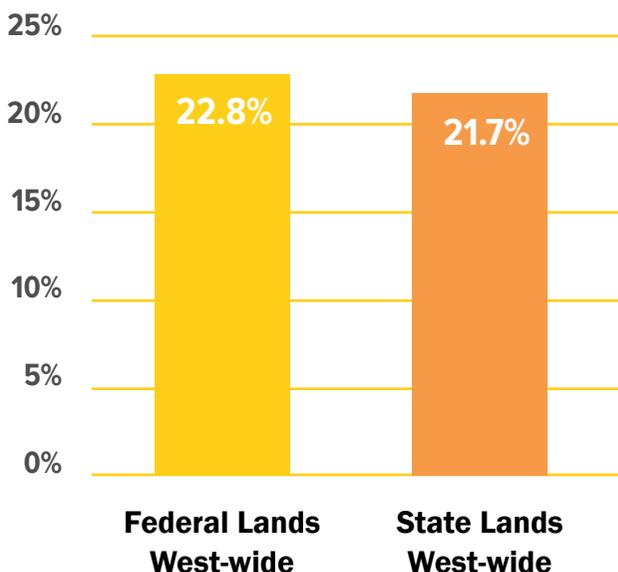
This assessment disproves claims that U.S. public lands are more at risk of wildfire than other lands, a talking point frequently employed by conservation opponents.

The analysis relies on the *West Wide Wildfire Risk Assessment* model, a key benchmark from the Council of Western State Foresters and the Western Forestry Leadership Coalition, which evaluates wildfire risk on an acre-by-acre scale using key factors, including historical fire data, topography, vegetation, tree cover, local climate, and more.<sup>1</sup>

In recent years, some elected officials have used the presence of wildfire on Western lands to scapegoat U.S. public lands managers and the agencies charged with safeguarding the

### WILDFIRE RISK

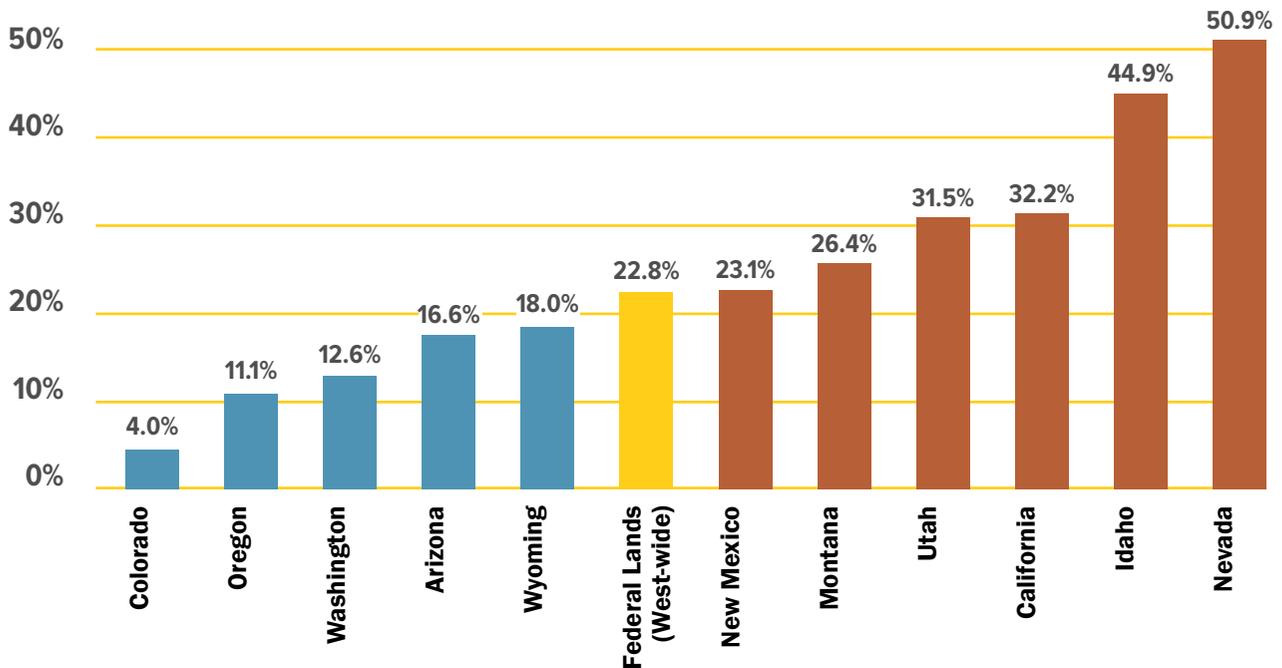
Percent of federally-managed public lands and state lands at a high risk of wildfire.



## PERCENTAGE OF LANDS AT A HIGH RISK OF WILDFIRE

The percent of U.S. public lands at a high risk of wildfire (23 percent) is **approximately equal** to the risk on state-owned lands (22 percent) across the West.

**Here's how state-owned lands in the West measure up to the fire risk on U.S. public lands.**



more than 600 million acres of American-owned lands.<sup>2</sup> Their claim—that wildfire is worse on U.S. public lands than state-owned lands—is misleading and not supported by available data.

**According to the Center for Western Priorities' analysis, approximately 23 percent of U.S. public lands in the West are at high risk of wildfire, while 22 percent of state-owned lands are at high risk of wildfire.** Six of the eleven Western states examined—California, Idaho, Montana, Nevada, New Mexico, and Utah—have a higher percentage of state-owned lands at high risk of wildfire than what is observed on U.S. public lands across the West.

In Utah, for example, 31 percent of state-owned land is at a high risk of wildfire—that's 9 percent

higher than the West-wide risk for U.S. public lands. In Montana, 26 percent of state-owned lands are at a high risk of wildfire, and in Idaho, 45 percent of state-owned lands have a high wildfire risk.

None of this is to assert that state land managers are doing a poor job. Wildfire risk in the West is a complicated mix of natural ecology, development in fire-prone areas, a changing climate, and historic land management practices.<sup>3</sup>

It is time for public officials to abandon their baseless wildfire rhetoric and engage in pragmatic conversations, policy development, and resource allocations that will protect Western communities from wildfire risks and provide the tools to help the West adapt to increasing fire risk.



## 2

# BACKGROUND ON WILDFIRES AND WESTERN LANDS

The Western United States is facing longer and more intense fire seasons. After 1960, the nine worst fire seasons in the U.S. have all occurred since 2000. Each burned more than 7 million acres. In the 40 years between 1960 and 2000, only one other fire season burned more than 7 million acres.<sup>4</sup> With increasingly destructive fire seasons, the average cost of wildfire protection and suppression is also increasing dramatically.<sup>5</sup>

This trend is driven by a complicated mix of natural ecology, climate change, historic land management practices, and development in fire-prone areas, not landowner status.

4.

**“The movement of people into the [Wilderness Urban Interface], the fires they start there and infrastructure that needs protection, plus drought, climate, suppression —you combine all these things, and its creating more intense fires. It just becomes a larger problem.”**

— **KEN PIMLOTT,**  
Director of the California Department of  
Forestry and Fire Protection<sup>6</sup>

## CLIMATE CHANGE:

More than half the increase in area burned by wildfire in the Western United States can be attributed to climate change.<sup>7</sup> Increasing temperatures have led to earlier snowmelt, more drought, and longer, hotter fire seasons.<sup>8</sup> According to the U.S. Forest Service, climate change has caused fire seasons to be, on average, two-and-a-half months longer than they were in the 1970s.<sup>9</sup>

**“Since 1985, more than 50% of the increase in the area burned by wildfire in the forests of the Western United States has been attributed to anthropogenic climate change.”**

— **SCHOENNEAGEL, ET AL.**  
(citing research by Williams et al.)<sup>10</sup>

## HISTORIC LAND MANAGEMENT PRACTICES:

In the early 20th century, our country’s approach to fire prevention was suppression—which meant putting out all fires, no matter how innocuous. The problem: wildfire plays a natural and beneficial role in the ecology of many Western forests.<sup>11, 12</sup> Removing fire from the system has resulted in overgrown and less healthy forests, particularly those “that historically experienced natural, relatively frequent, low severity wildfires.”<sup>13</sup> For example, ponderosa pine forests—a very common species in the West—historically burned as frequently as every two years.<sup>14</sup> Now, historic suppression efforts have created a situation where many ponderosa forests are at risk of much larger and more severe wildfires.<sup>15</sup>

## MORE PEOPLE AND PROPERTY IN FIRE-PRONE AREAS:

Much of the increased cost of wildfires in the West can be attributed to a higher population living near or in high fire risk areas.<sup>16</sup> As the number of people choosing to live in the Wildland Urban Interface (WUI) continues to grow, federal, state, and local firefighters incur additional costs and risks defending residents and structures from fire.<sup>17, 18</sup>

Unfortunately, the problem is only expected to worsen—creating even more expensive fires. Living in forested areas remains desirable and there are still significant undeveloped areas within the WUI.<sup>19</sup> As one researcher found, “Since 1990, the average number of structures burned per year by wildfires has more than tripled, yet home building continues. Since 1990, 60 percent of new homes in the U.S. have been built in forested areas, and today 40 percent of total single-family homes in the U.S. are exposed to the risk of forest fires.”<sup>20</sup>

**“Increasing densities of people and infrastructure in the [Wilderness Urban Interface] makes management more complex and requires more firefighting assets to ensure an appropriate, safe, and effective response that protects lives and property.”**

— **U.S. FOREST SERVICE,**  
August, 2015<sup>21</sup>

### 3

## WILDFIRE RISK ON STATE-OWNED LAND AND U.S. PUBLIC LANDS IS EQUIVALENT

The Center for Western Priorities’ analysis found that the percent of public lands managed by federal agencies at high risk of wildfire is approximately equivalent to that on state-owned public lands across the eleven Western states examined. According to the analysis, 23 percent of all U.S. public lands are at high risk of wildfire, while 22 percent of state-owned lands are at a high risk of wildfire.

California, Idaho, Montana, Nevada, New Mexico, and Utah have a higher percentage of state-owned lands at high risk of wildfire than what is observed on U.S. public lands across

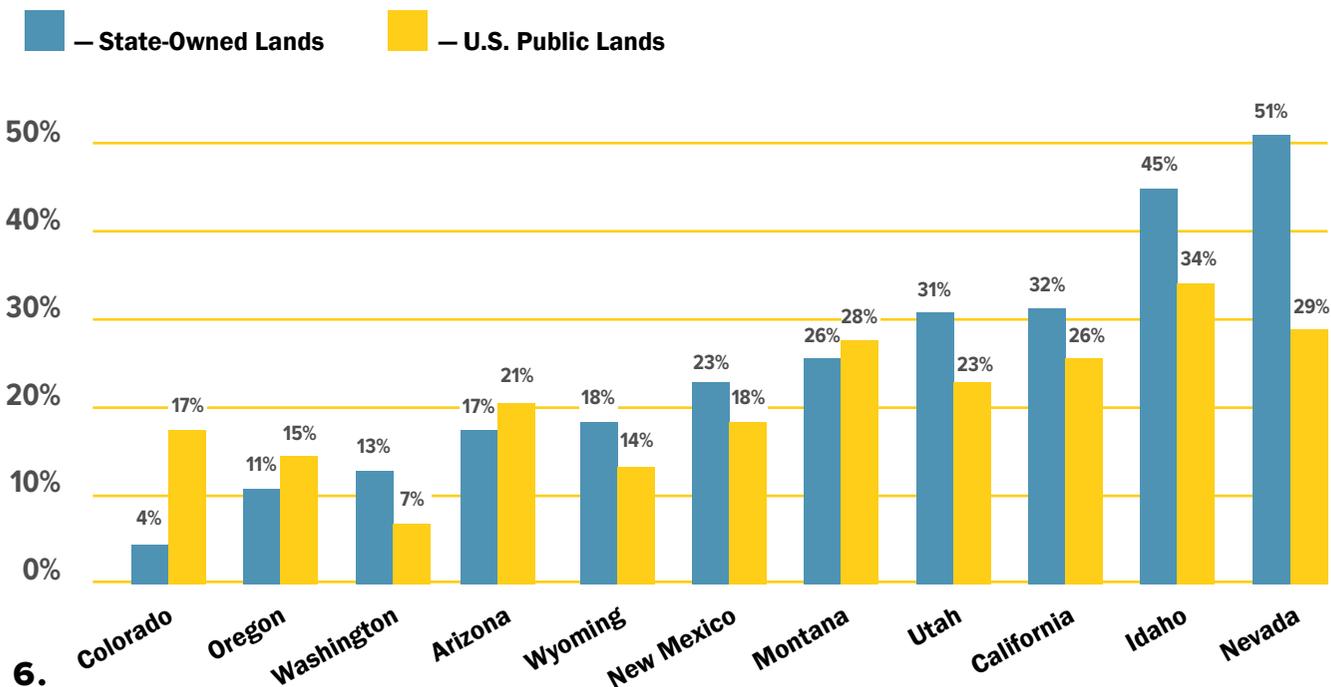
the West.<sup>22</sup>

In seven of the eleven states studied—California, Idaho, Nevada, New Mexico, Utah, Washington, and Wyoming—the percent of state-owned lands at a high risk of wildfire was greater than on U.S. public lands within the same state.

Allegations of higher fire risk based solely on the number of federal acres burned in a fire season misrepresent the facts. There are 7.4 times as many U.S. public lands in the eleven Western states as state-owned public lands.<sup>23</sup>

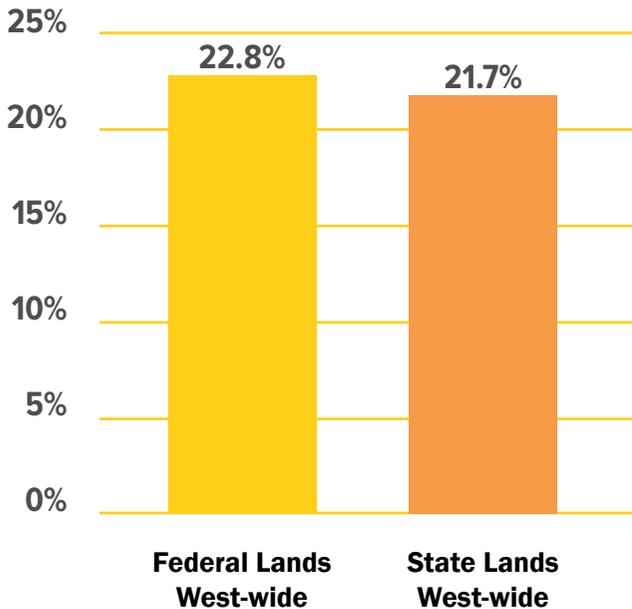
### BY STATE: PERCENTAGE OF LAND AT A HIGH RISK OF WILDFIRE

**Note:** In the graph below, values have been rounded to the nearest whole number.



The eleven Western states considered here have approximately 362 million acres of U.S. public lands, compared to 49 million acres of state-owned lands.<sup>24</sup>

## WEST-WIDE WILDFIRE RISK



More acres of U.S. public lands burn in any given summer for a very simple reason: there are more of them. Proposals to dispose of U.S. public lands to state hands will only shift the responsibility—and the liability—of fighting wildfire to the states. But states, most of which are required to balance their budgets annually, cannot afford the growing costs.

According to a 2015 report from the U.S. Forest Service, the amount the federal government spends on fire programs is growing at an incredible rate, and by 2025, “two out of every three dollars the Forest Service gets from Congress as part of its appropriated budget will be spent on fire programs.”<sup>25</sup>



## METHODOLOGY AND DEFINITIONS

To calculate the percentage of land at a high risk of wildfire, the Center for Western Priorities used Fire Threat Index (FTI) data included in the *West Wide Wildfire Risk Assessment* model. The model, which was developed by the Oregon Department of Forestry on behalf of the Council of Western State Foresters and the Western Forestry Leadership Coalition, provides geospatial data to quantify the wildfire threat facing the West.<sup>26</sup>

The Fire Threat Index (FTI) considers past fire occurrence, local fuel and topography, weather, and the expected final fire size to measure the likelihood of an acre burning. By assigning a value between 0 and 1, the FTI is an approximation of the probability of an acre igniting. For the purpose of this report, the Center for Western Priorities followed methodology outlined by the American Forests Foundation, and considered all acres with FTI values of .004 or higher to have a High FTI.<sup>27</sup> This value corresponds roughly to the most at-risk 25 percent of Western forests.

By mapping acres with a High FTI in ArcGIS and overlaying land ownership data made available by the Conservation Biology Institute, the Center for Western Priorities was able to calculate the number of acres of U.S. public lands and state-owned lands at a high risk of burning in eleven Western states.<sup>28</sup> Finally, the number of acres at a high risk of burning was divided by the total acreage of U.S. public lands and state-owned lands, respectively, in each of the eleven Western states to determine the percent of federal and state lands at a high risk of wildfire.

**Western states:** Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

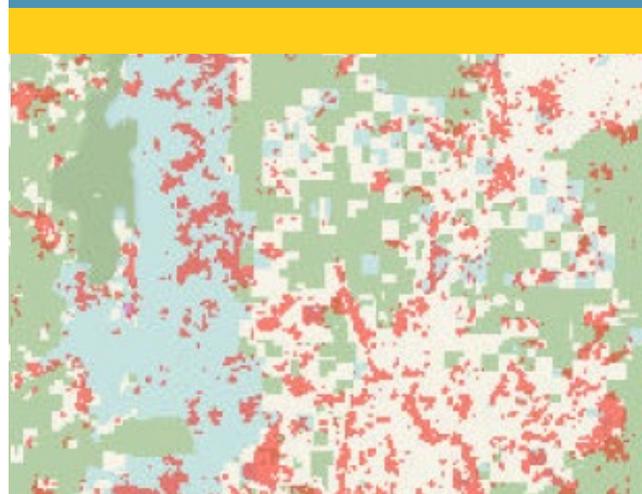
**U.S. public lands:** Includes land managed by the U.S. Forest Service, the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service, and the Department of Defense, but excludes land managed by the Bureau of Indian Affairs. Quantified using the Conservation Biology Institute's Protected Areas Database of the U.S.

**State lands:** State-owned lands were quantified using the Conservation Biology Institute's Protected Areas Database of the U.S.

8.

## WHY USE A MODEL INSTEAD OF HISTORICAL WILDFIRE DATA?

Ideally, the model results examined here would be coupled with historic wildfire data. But states and the federal government do not currently have a rigorous, interagency system for tracking how many acres of state and federal lands burn in any given year. Data provided by the National Interagency Coordination Center (NICC) does indicate that state and private lands have historically burned as frequently—and in many cases more frequently—as federal lands.<sup>29</sup> However, this data has significant limitations making it virtually impossible to draw conclusions. For example, the NICC does not always separate state lands burned from private lands. Also, acreage information is reported based on the point of origin of the incident, meaning that if a fire starts on state lands (or federal lands) then spreads to federal lands (or state lands), the entirety of the fire is classified under where the fire started.<sup>30</sup>



**EXAMPLE ANALYSIS:** High FTI (in red) overlays state-owned lands (in blue) and federally-managed lands (in green).

# 4

## A CLOSER LOOK AT UTAH

Utah is no stranger to wildfire. During the summer of 2017, the Brian Head fire burned 71,000 acres in the state, forcing the evacuation of 1,500 people and destroying 13 homes.<sup>31</sup> The fire was started by a Utah man torching weeds on his property.

Despite the origins of the fire, Utah politicians tried to place blame for the fire on the U.S. Forest Service. Utah state Representative Mike Noel told reporters, “When we turned the Forest Service over to the bird and bunny lovers and the tree-huggers and the rock-lickers, we turned our history over.”<sup>32</sup>

Utah Senator Mike Lee has argued that, “Extreme fire behavior has become the new normal, due in no small part, to the mismanagement or lack of management of our public lands.”<sup>33</sup> Utah Congressman Rob Bishop agreed, claiming, “Over the last few decades we’ve seen our National Forest System fall into complete neglect—what was once a valuable asset that de-

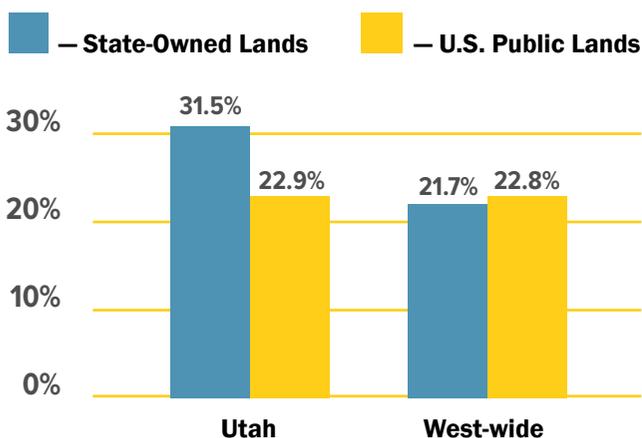
teriorated into a growing liability.”<sup>34</sup>

State Representative Noel, Congressman Bishop, and Senator Lee each think that U.S. public lands within Utah should be handed over to the state.<sup>35, 36, 37</sup> Each maintains the unfounded or misleading belief that state-owned lands are somehow better managed than U.S. public lands, frequently pointing to the prevalence of wildfire on U.S. public lands.

However, the data do not support the political rhetoric. According to wildfire risk modeling, Utah state lands have a higher percentage of fire-prone acres than U.S. public lands. In that state, over 31 percent of state-owned lands have a high wildfire risk. Approximately 23 percent of U.S. public lands in the state of Utah are at a high risk of wildfire.

The argument that disposing of American-owned public lands in Utah into state hands would reduce the probability of wildfires in the state is not only baseless, it could have serious economic consequences. From 2010 to 2014, Utah received an average of \$28 million annually from the U.S. government to suppress wildfire on national forests.<sup>38</sup> If the U.S. public lands in the state were transferred to state management, the state of Utah would be responsible for picking up that sizeable bill.

### UTAH: PERCENTAGE OF LAND AT A HIGH RISK OF WILDFIRE



**Utah state lands are more fire-prone than U.S. public lands.** In the state, over 31 percent of state-owned lands have a high wildfire risk. Only 23 percent of U.S. public lands in Utah are at risk.



# 5

## SOLUTIONS FOR POLICYMAKERS

Politically-motivated efforts to dispose of U.S. public lands are a distraction from workable policies to alleviate wildfire risks and protect communities from the impacts of wildfire. There is no shortage of good policy ideas—here are five areas where policymakers could focus their time and energy:

### **FIX THE FIRE BORROWING PROBLEM**

In recent years, wildfires have burned through the U.S. Forest Service’s annual budget for fire suppression, forcing the Forest Service to borrow from crucial fire prevention programs to pay for emergency suppression. The practice has become common enough to have its own name: “fire borrowing.” The share of money the Forest Service spends on wildfire has increased from 16 percent of the annual budget in 1995 to 52 percent in 2015. If the problem goes unaddressed, wildfire suppression is expected to consume two-thirds of the annual budget in 2025, drastically undercutting the Forest Service’s ability to fund the very programs that reduce wildfire risk, leading to greater possibility of future fires.<sup>39</sup>

Instead of forcing the Forest Service to poach from other critical programs—from fuel reduction and wildfire prevention to campground and trail maintenance—the largest and most expensive fires should be treated, and funded, like the natural disasters they are. Policymakers need to rework the fire appropriations process so that federal agencies have access to emergency disaster funding to fight the West’s largest fires,

leaving resources untouched to do the work necessary to prevent more catastrophic wildfires in the future.

## SUPPORT LANDSCAPE-LEVEL RESTORATION

The timber wars of the 1980s and 1990s that pitted loggers against conservationists have been supplanted by landscape-scale collaboratives bringing together historic adversaries in search of consensus solutions to forest health challenges. Recognizing the potential of landscape-level restoration and collaboration, the U.S. Congress created the Collaborative Forest Landscape Restoration Program in 2009 to “support much-needed economic stability in rural communities, and reduce the risk and associated costs of catastrophic wildfire.”<sup>40</sup>

The program has been an incredible success and maintains support from both the timber sector and conservation groups. In 2016 alone, Collaborative Forest Landscape Restoration Program projects generated nearly \$300 million in labor income, supported over 6,000 jobs, treated 1,000 square miles to reduce hazardous fuels, repaired nearly 200 miles of streams, maintained or improved nearly 3,000 miles of trails, and the list goes on.<sup>41</sup>

But the Trump administration has proposed zeroing out funding for the program, risking the years of hard work to get collaborative partnerships off the ground, do meaningful work

to restore forest health, and minimize the risks of wildfire to Western communities.<sup>42</sup> Congress should double down on what we know works. That includes continued and expanded support for landscape-scale restoration and collaboration.

**“I’ve made a living my entire adult life in the forest products sector. I’m amazed at how far the mainstream environmental community and the timber industry have evolved from being at war with each other to taking a collaborative approach to landscape forest restoration.”**

— CRAIG RAWLINGS,  
The Forest Business Network<sup>43</sup>

## SUPPORT MARKETS FOR FOREST RESTORATION BYPRODUCTS

Strong and sustainable markets for forest products are critical to driving restoration efforts to improve national forest health and reduce wildfire risk in fire-prone regions.<sup>44</sup> Supporting markets for the byproducts of forest resto-



ration—namely, small-diameter and lower value timber—can help build the restoration economy in Western states.

One emerging market for so-called “woody biomass”—what’s historically been the nearly valueless byproduct of restoration—is cross-laminated timber, a material with the potential to replace steel and concrete in high-rise buildings.<sup>45</sup> Continuing to invest in research and development of new and emerging technologies for restoration byproducts will drive down the cost of restoration, incentivize additional private investment into restoration, and ensure forest restoration can occur at a scale in line with the problem.

## **FOCUS PREVENTION ON THE HIGHEST-RISK AREAS**

Because of limited resources, the U.S. Forest Service and other land management agencies should prioritize the highest-risk areas in their jurisdiction for prevention and treatment. However, a 2016 Inspector General Report found that, despite progress, the Forest Service still did not have an adequate system in place for identifying and treating high-risk areas, and that of the 154 national forests and 9 regions managed by the Forest Service, only 5 national forests and 3 regions had begun developing working risk assessment tools.<sup>46</sup>

The Forest Service has since made a commitment to “fully develop and implement a national

risk assessment model for identifying and prioritizing hazardous fuels reduction projects on national Forest System lands.”<sup>47</sup>

Policymakers should closely track Forest Service implementation of this assessment model and make sure that the Forest Service is given the resources it needs to treat high-risk areas.

## **INCENTIVIZE SMART PLANNING WITHIN FIRE-PRONE AREAS**

Most communities in fire-prone areas are failing to take the necessary steps to plan for wildfire and mitigate against its risks.<sup>48</sup> In fact, only 21 percent of at-risk communities have developed Community Wildfire Protection Plans. These plans not only clarify a community’s priorities for protecting life, property, and infrastructure, they also address key issues like wildfire response, fuels reduction, and community preparedness.<sup>49</sup> These plans are also critical for guiding how and where fuel reduction funds are spent to protect communities from wildfire.

Policymakers should consider how to incentivize community planning to reduce the risk of wildfire. One idea is to create a Community Rating System for fire, modeled after a similar system for flood risk. Communities could join voluntarily and earn points based on local wildfire risk reduction measures, and be rewarded with greater government support and funding for fire planning and mitigation.<sup>50</sup>



# 6

## CONCLUSION

The percent of U.S. public lands and state-owned lands at a high risk of wildfire are approximately equal. New fire risk modeling disproves the misleading—and often repeated—claims that U.S. public lands are at more risk of wildfire than other lands.

It is time for elected officials to move beyond petty arguments and blame games and get to work creating policies to protect communities from wildfire and restore America's forests. There will no doubt be strong disagreements, but there is also common ground to be found. The American public expects as much.

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